THE VETERINARY RECORD

A Weekly Journal for the Profession.

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The Coghill Fund.

It was our sad duty recently to announce the death of Mr. P. D. Coghill, Superintendent of the Research Laboratory of the Royal Veterinary College. Owing to circumstances over which he had no control he had been unable to make much provision for his wife and family. A committee has been formed to raise a fund from which some provision may be made, and the form of the fund will depend entirely upon the amount collected.

Subscriptions may be intimated to any member of the committee, or forwarded at once to the Treasurer, Dr. Sims Woodhead, Conjoint Laboratories, Victoria Embankment, W.C.

Members of Committee.

G. T. Brown, Esq., C.B., Principal, Royal Vet. Coll.
J. Batty Tuke, Esq. M.D., F.R.S.E., Curator of the Laboratory of the Royal Coll. of Physicians, Edinburgh.
C. Stephenson, Esq., F.R.C.V.S., Chief Vet. Inspector for the County of Northumberland.
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Mr. C. Blaikie.
Mr. Ritchie.

Poor Coghill did his best for us, and the only return we can make is to assist his widow and orphans.

Popular Veterinary Medicine.

The Cheshire Observer for January 13th contains an editorial announcement that a column will be devoted each week to "Veterinary Notes and First Aid." No. 1 of the proposed series, which is an introductory, gives a general view of the ground to be covered. It is distinctly good in manner and matter, and if continued on the same lines promises to be useful to the owners of stock, and by no means detrimental to the profession of the writer.

We know that this sort of work is viewed with very different feelings by veterinary practitioners. Some go so far as to say that all popular writings and lectures are to be deprecated and that "the art and mystery" of medicine should be jealously guarded from the profane and uninitiated. From a business point of view there was a good deal of truth in this a generation or two ago. Then medicine was an "art and mystery." Its practitioners required to be artful and mysterious if they desired a reputation. The stock owners in those days believed that disease was an entity which must be expelled, or a process which could be cut short. They thought that every disease had its remedy, and that the remedy was something in the form of a draught or a powder. An ancient recipe for any disease was valued much as a charm was a generation or two further back. The therapeutic value of a dose was in proportion to the violence of its effects, and this might be prognosticated by the strength of its odour, and the general filthiness of its appearance. It is almost as fatal to success to be in advance of public opinion as to be behind it. The successful practitioner was he who best guaged popular knowledge and popular prejudice.

Medicine is yet far from an exact science, but its practitioners have for at least twenty years broken through the trammels of superstition, and discarded empiricism as their sole reliance. We know our ignorance now, and we recognise that drugs are not the be-all and end-all of our remedial efforts. We distinctly object to violent actions on the deranged organs of the body, and we endeavour to make our pharmaceutical preparations as free as possible from all unpleasant smells or tastes. We have, in fact, arrived at the rational stage of our art, and know that in all cases the first necessity in the treatment of disease is a skilled brain to diagnose the case, and to select remedies for each phase of its development. Our greatest difficulty in this new light is to overcome the popular ignorance and prejudice resulting from the times when superstition, and mystery, and sspecifics held the mind in bondage. Quackery flourishes upon ignorance, and the way to stamp it out is to throw light into the dark places, so that the public may be able to use their eyes and brains.

Popular writings and popular teachings which remove the prejudices of men and disseminate sound knowledge of disease and health are the very best antidotes to quackery, and the greatest aids to a proper appreciation of the scientific practitioner.

Popular writings and teachings may do harm, but only when they follow the old lines of mystery and specifics. Want of intelligence, or perversity in the teacher may be hurtful to the practitioner and injurious to the owner of stock who follows the advice given, but we are convinced that the men who in different parts of the country have recently been lecturing for County Councils have done as well by their profession as by the stock-owners they have addressed. The articles in newspapers have not always been as judicious as they might have been, still, on the whole, their tendency has been good. The "answers to correspondents" are another matter. Many are distinctly bad, and one can only be astonished at the omniscience which enables gentlemen to prescribe for ailments they only know of by the absurd accounts sent by incompetent observers. Occasionally serious injury is done by the "newspaper vet." contradicting the opinion and altering the treatment of a local practitioner who has both seen and diagnosed the case.

CASES AND ARTICLES

YEW POISONING IN A TWO-YEAR OLD CART COLT.

By H. Jarvis, M.R.C.V.S, Battle, Sussex.

I will not apologise for intruding on your space with this letter, because there are circumstances which I think are somewhat interesting.

I was called to a farm near here on Sunday last to see a two-year old cart colt that was very ill, and on my arrival I found it had died. I was informed by the foreman that he found the animal in the early morning standing near the building, that he had driven it away for a short distance, when it stumbled and fell, that he tried to make it rise, but on its attempting to do so it fell again, he then concluded the animal was very ill, and sent for me. The colt had been allowed to roam at will in the fields or about the farm buildings. We made a search and traced in the snow where he had gone to a yew tree standing in a cottage garden near the farm buildings, from which tree fresh sprigs had been recently broken off. On making a post-mortem examination, I found the colt to be in extremely good condition, there being a large quantity of fat about the body. On removing the abdominal viscera, I opened the stomach and found it well filled with ingesta of a very dry nature; on breaking this down I noticed it to present three different colours; in one part it was of a bright pea green, next to this it was of a mahogany colour, and next it was of its natural colour from eating straw from a stack to which it had free access. That ingesta next the villous portion of the organ had between it and the mucous membrane a coating of thick mucus, while the membrane itself was congested in patches. In the ingesta I found sprigs of yew.

The small intestines contained a quantity of chyle and mucus of a greenish hue, with a very few sprigs of yew floating in it, while the lining membrane appeared to be thickened, and some parts of the gut in a state of cramp. The cœcum contained a quantity of ingesta well mixed with fluid, of a natural consistency. The colon was full of ingesta about such as is usually found in horses that die suddenly. The lungs were congested, while the other organs in the thorax appeared healthy. I came to the conclusion that this yew had been eaten some considerable time before death; and on making enquiries I learned that the animal had been seen by someone in the cottage to eat from the yew tree in the latter part of the afternoon of the previous day. What struck me as being remarkable in the case was that the yew was taken on a full stomach, but immediately after having taken it the digestive apparatus became paralysed, and the process of digestion to have suddenly ceased; nothing seemed to have passed out of the stomach beyond fluid carrying with it a very small quantity of ingesta and yew, the small intestines retained in their tract that which had passed out of the stomach, together with the chylous, matter as prepared by the succus entericus. The large intestines must have remained also in a comatose state, as they were full, and defæcation had not taken place.

It seems clear that this yew must have been eaten 16 or 17 hours prior to death, whereas from my experience its usual time is run in from three to six hours. One characteristic feature in cases of yew poisoning that have come under my observation is that the blood does not clot, it remains fluid, and on cutting through any fleshy part blood will flow, and floating on it will always be seen an oily substance similar to globules of fat on broth or gravy from a cooked joint. I have in some instances tried by cutting the jugular vein to collect blood free from this oily condition, but have invariably failed.

One other matter of interest that I found in this was that in the cœcum there were numerous tapeworms of from one and half to three inches in length. These I find to be good specimens of "tænia perfoliata," many were perfect, of a light colour, while others towards the lower or posterior extremity had gone yellow, were shorter, broader, and imperfect, having no doubt shed many joints or segments, these were undoubtedly older worms of the same species.

If the history of this case differs from that in the experience of other members of the profession, I for one shall be pleased if they will express themselves through the pages of your valuable paper.

LEAD POISONING IN CATTLE.

By G. E. Nash, M.R.C.V.S., Richmond, Yorks.

The following cases may be of interest to the profession, showing what a large quantity of lead can be carried in the system for some time without symptoms of poisoning.

On January 2nd of this year I was wired for to go and see a bullock said to be suffering from staggers. I found the beast (a two-year-old) in good condition, standing "all in a heap" with his head firmly pressed against the rack, when pulled back he returned to the same position as soon as we let go his head. Conjunctivæ highly injected, pulse fast and hard, breathing fast but no grunt, temperature 105·1, and a peculiar symptom was that when inserting the thermometer in the rectum the animal became convulsed in the muscles of the hind quarters. I thought he was going to have a fit, but the spasms gradually passed off. Dung passed in small quantity and pellety, urine normal to all appearances.

I diagnosed it as a case of inflammation of abomasum, and perhaps intestines, the owner was afraid that the beast had picked up some cinders which had been thrown from his engine. I found that the cattle had been on grass a short time before, and that they were now being fed on pulp without any water to go at, and I was inclined to blame the absence of water as the cause of the symptoms. I gave an aperient and febrifuge medicine. Next day beast brighter and not pressing his head against rack, but temperature higher and breathing quicker. I had few hopes of his recovery, and received a wire next morning to say he had died through the night.

On January 6th I received a letter to say that another bullock of the same lot had been found dead that morning, and that they would like me to go down and make post-mortem examinations. I may mention that this second beast was not quite well the first time I was at this farm, simply costiveness, and they thought him a bit dull. I set him up, and he stretched himself after rising, which I looked upon as a healthy sign, he was ruminating and eating, but not quite as heartily as he ought, I advised them to give him a quart of linseed oil and plenty of gruel to drink, taking away all solid food until his bowels were more relaxed. As the oil had not worked next night a second quart was given, the beast appeared lively and would have eaten anything, but in the morning he was found dead.

The post-mortems I made were, I am sorry to say, of a very incomplete character, the reasons being that I had lost a good deal of time in looking for the carcases in a wood and it was getting late when I found them, and another reason was that the thermometer registered about twenty degrees of frost.

On opening the abdomen of the first bullock that died the rumen appeared healthy, the reticulum contained nearly four pounds of lead in small particles and the lining membrane of this viscus was easily removed, the contents of the omasum were dry, and the lining membrane easily peeled off, as in the case of the reticulum, I could not, however, find any lead here; there was much inflammation of the abomasum and intestines, liver congested. I did not examine the lungs, heart, kidneys, &c., for reasons already stated, and also, because my client (who watched me make the examination) was satisfied of the cause of death after seeing so much lead removed from the carcase.

I thought the contents of the rumen felt heavy when handled but could not detect any lead amongst it, at the same time I think more lead would have been found had I had time to examine all the contents of the stomachs minutely.

The second bullock showed no symptoms of inflammation, but I found over 5lbs. of lead in the reticulum, which was in larger pieces, some like flattened bullets, which they doubtless were.

After finding this lead my client informed me that the bullocks had been summered in a pasture where there was a rifle range, and a great deal of shooting had taken place during the summer. The two bullocks that died were out of a lot of 10 that had been purchased a short time before, I examined the other eight to-day (the 9th) and found them, to all appearances, perfectly healthy, eating well, and putting on flesh; at the same time I do not think they are out of the wood yet, and I recommended small doses of mag. sulph. to be given twice a week, with the intention that if the insoluble metal was, by the action of the gastric secretion, converted into a soluble salt it might, by the action of the sulphate, be converted into the insoluble sulphide.

My opinion is that the cause of death in the second case was not due to poisoning but to the lead acting as a foreign body, thereby causing stoppage and irritation by its presence.

The first case was no doubt a combination of the two, the clonic spasms of the muscles of the quarters pointed to poisoning, but I think the other symptoms would be accounted for in any acute stoppage and irritation from other causes than lead.

I could not find any blue line below the incisors post-mortem, and I must confess I did not look for it during life.

I should be pleased to know whether any practitioner has had similar cases, they may be more common than I think. I have seen all manner of foreign matter taken from the reticulum but never lead in such quantity.

CANINE SAGACITY.

By F. Hobday, M.R.C.V.S., Royal Vet. College.

A remarkable incident of canine sagacity came under my notice on Friday morning last, January 10th, and I think it worth recording as it is the second case on record at the College during the last two years.

On Friday morning, about 7.45 a.m., the groom in charge of the lower quadrangle of the College had his attention drawn to a little terrier puppy which was sitting very disconsolately at the free clinique entrance of the College. On opening the gates the animal came inside and made its way to that part of the College set apart for the gratuitous practice, where it sat down, apparently waiting to be attended to. The groom reported the case to me, and on examination it was discovered to be suffering from a compound fracture of the fourth metatarsal bone, the skin being abraded and a severe wound present about three or four inches long. I deemed it necessary to amputate one toe and pad, and then administered the necessary remedies. The patient is still in the infirmary, in fact shows no disposition to leave, and is progressing favourably. It is very good tempered, and apparently appreciates the amount of trouble which has been bestowed upon it. The injury looks as if it had been caused by the wheel of some vehicle.

This is the second instance of the kind which has occurred at the College lately, the former one being a spaniel dog which came by itself about two o'clock one free clinique, and sat down to wait its turn. Prof. Macqueen, who was taking the clinique, caused its injuries (a fracture of one of the bones of the left fore leg) to be attended to, the animal hobbled away apparently well satisfied, and did not return.

VETERINARY SOCIETIES.

NATIONAL VETERINARY ASSOCIATION.

By an oversight the name of Mr. Wm. Bower was omitted from amongst the names of those gentlemen who were present at the last Provisional Committee Meeting, held at Red Lion Square.

F. Hobday, Hon. Sec.

ROYAL VETERINARY COLLEGE V.M.A.

A meeting of the above was held in the College on Wednesday, Jan. 10th, at 6.30. Mr. Fyrth in the chair, there were also present, Prof. McFadyean, Messrs. W. Hunting, Walpole, Wilson, Stevens, and 58 members. Mr. Clapp read a paper on "Glanders, its spread and Prevention." The essayist dealt very fully with the history, nature, cause, symptoms, treatment and spread of the disease, he also detailed the laws of several countries in relation to animals affected.

At the close of the paper, on the invitation of the chairman, Mr. Hunting rose, and first complimenting the Essayist on the very able manner in which he had handled the subject, proceeded to give his views on the various points of interest, of which, not the least interesting, was that the commonest mode of infection was by ingestion. Prof. McFadyean did not agree with this, and was of opinion that the commonest mode of infection was by inhalation. Many other points were touched upon, and the following gentlemen also took part in the discussion, Messrs. Dowell, Stevens, Coley, Brownrigg, Farrant, and Jones. The meeting then terminated with hearty votes of thanks to the Essayist, Mr. Hunting, Prof. McFadyean, and the chairman.

R. Over, *Assist. Sec.*

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting of this Association was held in the North Eastern Hotel, Darlington, on Friday, December 15th, 1893, at 4 p.m., Mr. J. G. Deans, president, in the chair. There were also present Messrs. F. R. Stevens, W. T. Briggs, G. J. Harvey, C. G. Hill, C. T. Holmes, and W. N. Dobbing, Darlington; P. Snaith, and H. H. Roberts, Bishop Auckland; A. A. Stevens, Durham; A. Peele, West Hartlepool; W. Awde, Stockton-on-Tees; Mr. Morton, Darlington, was also present as a visitor.

Apologies for non-attendance were received from Profs. Walley and Williams, Messrs. Thos. Greaves, J. E. Peele and John Nettleton.

Mr. Snaith proposed, and Mr. Peele seconded, that the minutes of previous meeting be taken as read and confirmed. Carried.

Mr. Snaith proposed and Mr. Stevens seconded, that Mr. C. T. Holmes, M.R.C.V.S., Darlington, be elected a member of the Association. Carried.

Mr. Morton read a communication on a case of brain disease in a horse which had been under the treatment of Mr. Stevens, and on post-mortem examination revealed the presence of two tumours which no doubt were the cause of the mischief.

A discussion followed, after which a vote of thanks was accorded to him for the trouble he had taken.

Mr. Snaith then read some notes he had prepared on a case of fractured cervical vertebræ and also produced the bones for inspection which proved most interesting, and he was accorded a hearty vote of thanks.

Mr. Stevens then moved the following resolution of which he had given notice:—

"That the attention of the Royal College of Veterinary Surgeons be drawn to the notice given by the Board of Inland Revenue that methylated spirits cannot be used by veterinary surgeons without the formulæ being submitted to the Board, and that in no case can it be used internally as a medicine."

Mr. Snaith seconded the proposition, which was carried unanimously, and it was decided to ask Mr. J. E. Peele to bring the matter before the Council.

Mr. H. H. Roberts (treasurer) then presented the annual report of accounts for year ending August 1893, the same having been audited were accepted, on the proposition of Mr. Snaith, seconded by Mr. Peele, and several accounts submitted were ordered to be paid.

A large collection of dental instruments having been submitted, it was decided to purchase from Messrs. Arnold & Sons Professor Robertson's tooth forceps, and Thompson's tooth shears from Mr. C. H. Huish.

A letter having been received from Mr. G. E. Nash, of Richmond, stating that he was unable to reconsider his resignation, which had been sent in at the last meeting, it was decided to accept it with regret.

Three separate charges of conduct disgraceful in a professional respect were brought by one member of the Association against another, the first being that of blowing a horn when driving through the country villages as a means of advertising himself. Second—Cutting down contracts by tendering for a lower sum than his professional brethren in the same town. Third—By having a stall or stand in the market for the purpose of taking orders and selling medicines. A lively discussion followed, but as no previous notice had been given of the introduction of the subject it was decided to adjourn its consideration until the next meeting.

In the meanwhile it was decided to draw the attention of the Council of the R.C.V.S. to the fact that although power is conferred upon them by the Charter to deal with members of the profession who are guilty of disgraceful conduct, no code of ethics has yet been drawn up by them for the guidance of the profession and the members of this Association are unanimously of opinion that it is high time that such offences were defined.

It was also decided to ask Mr. J. E. Peele to bring this subject forward for consideration at the next meeting of Council.

W. Awde, *Hon. Sec.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 395).

Mr. H. Edgar said if he were in order—having spoken on the previous occasion—there were just a few remarks he should like to make in regard to the theory of firing. He denied that firing was to any great extent of use in veterinary surgery as a counter-irritant, if the term "counter-irritant" was employed in the ordinary sense of the term. He considered that the illustrations adduced by Professors Macqueen and Penberthy about the kidney and pleuritic adhesions supplying a counter-irritant, did not apply to firing, because they fired directly on the part affected, and they did not fire one point to derive some benefit at another and a distant point. His idea of the firing theory was that by it they brought about an irritation which induced a certain amount of blood to the part: that there was first a contraction and then a dilation of the vessels, and this brought more blood to the part. Thus he believed they assisted nature in her work of restoration very materially—they considerably hastened the process of restoration. Where they derived benefit in cases of bony deposit was where by point firing into the bone they got an irritation set up directly; and he thought it acted unquestionably as a bandage of a temporary, if not of a permanent character. Cases of thorough-pin, he thought, strongly proved this, and when they remembered the elastic power and condition of the skin, and when they fired and produced those lines or marks on the skin, they were bound to destroy that elasticity. He questioned very much whether the original amount of elasticity was ever re-

stored to the skin. If not it seemed to him that a temporary if not a permanent bandage was thus induced. His theory appeared to him to be more feasible than that of a counter-irritant which he could not personally accept. Of course in the human subject they had firing down the back for spinal lesions, but in no single case had he heard of any beneficial result from this process. As to chloroforming horses before they were fired, Mr. Edgar held that firing was the one operation of all others in which chloroform should be used. Of course if it was used that would render impossible the firing of a horse while it stood. In firing a horse the pain inflicted was just during the operation, and if before performing it they reduced the animal to a state of anæsthesia they would do away with all cruelty in the matter. He was much interested in what Col. Duck had told them about needle firing, which still further went to confirm his (Mr. Edgar's) idea as to firing acting as a direct irritant. He thanked Col. Duck for bringing this subject of needle firing under their notice, and at the first favourable opportunity he should try that process in preference to the old-fashioned method.

Mr. J. S. HURNDALL said he did not think that he could at all add to the usefulness of that discussion but at the same time he desired to show that personally be appreciated the pains which Professor Pritchard had taken in bringing this interesting subject of firing before the society. The interesting portion of the professor's address unquestionably was that which bore upon the utility of firing. He (Mr. Hurndall) had always felt that it was a matter which deserved their careful consideration, as to what were the cases in which they should subject a horse to the pain of the operation of firing, because he did not think that they as veterinary surgeons, as members of a profession who were credited at all events from their own standpoint with a desire to alleviate suffering, were warranted in inflicting pain unless there was some real, substantial benefit to be derived from the same. Merely to operate because it was a customary thing to do did not seem to him to justify them in subjecting an animal to the pain which the operation of firing must cause. He had endeavoured, so far as he could do so, to determine in his own mind what occasions warranted him in operating with the actual cautery, and he was hoping when Prof. Pritchard introduced this subject that he would have explained—explained at all events more fully than he did—in what way the cautery acted therapeutically, if he might apply the word. He did not know whether he was right at all but he had formed this conclusion: that the actual cautery in its influence seemed to have a direct action upon fibrous tissue, and he fancied that it set up an inflammatory process in that tissue. As Mr. Edgar had already said, when they fired in cases of lameness they operated on the part affected. Although they applied the cautery to the skin, still the parts that were affected and which they required to be influenced by the treatment, were those which were in direct conjunction with the skin, namely the tendons, ligaments, the periostium, and so on. The cases which had proved most successful under his own treatment where he had adopted the actual cautery had been those where he assumed the aim to be a relaxed condition of the fibrous tissue, such an articular ligament for instance, as they got in the ordinary overshot joint. Otherwise one bone could not protrude to any extent over the other. Those were the instances in which he had found firing most useful. He had in mind then a mare, belonging to a medical man, that worked very hard upon the stones in London and was over very considerably on the off fetlock joint of both fore and hind legs. The owner of the mare had a very strong objection to subjecting his animal to any operation involving pain if this could possibly be avoided. He (Mr. Hurndall) told him that, to the best of his belief, there was nothing better than light firing for that condition and he consented to his operating upon the mare. He began with the fore legs, and after a fortnight's interval operated upon the hind legs. The mare had, he believed, about six weeks rest, after which she came up with the legs perfectly straight in the joints, and she had gone on working—working soundly—ever since. He thought that that was hardly rest enough to account for what Mr. Caton wished to impress upon them as the probable result of firing. He referred to the possibility of rest being the chief thing. Unless something was due to the application of the actual cautery, how was it that those ligaments became contracted again so as to put the joint in its proper position: was it that the inflammatory process was conveyed to those ligaments and then the shortening process ensued, or how was it that the firing acted? (Mr. Caton: By the removal of exciting cause). But if they had a ligament that extended beyond its natural position, there must be some cause to account for its contraction again. (Mr. Caton:—Rest). Well, they might say it was rest. He did not wish it to be thought that he was advancing any theories in a dogmatic fashion—he was merely illustrating what he thought was the action of the cautery. Professor Pritchard had brought this matter before them with a desire to prove that there were advantages derivable from firing, but they required to discriminate in these cases where the advantages were to be gained, and where they might operate and secure absolutely no benefit. Mr. Edgar's experience was that firing was no good in the case of sprained tendons. Well, they all differed in their experiences. He had had experience where it was pretty clear to him that the tendons had been affected by firing. He had recently fired and found the same good results come. He took it that this was the same condition of things as with the ligament to which he had already refered. The tendons were sprained, and with the application of the cautery the relaxed condition was overcome, the tendons assumed their normal state, and the horse was able to go on and perform its work in a sound manner. These were a few points which seemed to him worthy of consideration. He was a strong opponent of causing pain to any animal when it could possibly be avoided; and he was glad to have the opportunity of confirming Mr. Edgar's view that all cases of firing should be performed under an anæsthetic. He did not think they were warranted in subjecting their patients to such severe pain unnecessarily. He did not go so far with Mr. Edgar as to assert that the most pain was inflicted during the operation. He thought if Mr. Edgar allowed someone to operate upon him with a firing iron he would probably find that the pain continued rather longer than just during the operation. Though there was not that constant irritating condition of things which was consequent upon the application of the ordinary blister which continued for a longer time, yet he could not but think that the results of the application of the actual cautery continued for some considerable period, and that the pain was quite sufficient for the horse to bear without the more acute pain caused during the operation itself. He hoped that his friends in the profession would take this matter of the administration of an anæsthetic prior to the operation of the firing into their consideration, because as he ventured to point out in a letter to *The Veterinary Record*, now was the time, if ever, when they should stand upon their dignity with regard to the humane treatment of animals. He thought that the time had arrived when they should tackle the Royal Society for the Prevention of Cruelty to Animals and when they should show that they were not to be sat upon by any stipendiary magistrate in London or elsewhere. They deserved, he was quite certain, from their intentions, the name of a humane profession, but he was sorry to say they had not got it. They had in-

curred in a great measure the reproach which was cast upon them simply because they performed a number of operations upon their patients without availing themselves of the means provided for performing those operations in a painless manner, or at all events freeing their patients from pain during the time of the operation. (Applause).

Professor MACQUEEN said with regard to Mr. Caton's idea that the thermo-cautery was a rather expensive instrument, it was true that as much as six guineas might be paid for one but, on the other hand, an instrument which would do the required work quite as well could be had for 30s. The latter was made in Germany, but it was no worse for that. The cheaper instrument could be obtained from a firm of instrument makers in Berlin. So far as expense was concerned, therefore, no one need be debarred from using the thermo-cautery if they preferred that to any other instrument. Another instrument mentioned by Colonel Duck at the previous meeting was the needle firing iron. There were several needle firing irons. The needle firing iron to which Colonel Duck referred was rather complicated in some of its works by a spring. There was another needle firing iron in which the needle, attached to a rod like an ordinary firing iron, was not unlike an ordinary knitting needle. Although needle firing was not at all uncommon now, yet he could not say that the instrument to which Colonel Duck alluded was very much used in this country. He owned that he had not seen an instrument of the kind. Then with regard to the depth of firing—but that warned him from the report of the previous meeting one should be very careful in making any remarks, because if one did not touch upon every point he possibly got credit for refraining from alluding to some points. As needle firing and pyro-puncture or deep firing was not alluded to by every speaker at the preceding meeting, this seemed an inclination to believe that that form of firing was somewhat rare. He could name a dozen gentlemen in the profession who practised deep firing for bony enlargements, and he thought the knowledge of this mode of firing was so common that it was hardly worth mentioning. When he referred to line firing and pyro-puncture, and so on, he was alluding to ordinary firing, not for bony enlargements especially. Then Mr. Caton in his references that evening to sidebone, asked whether he (Professor Macqueen) believed or said he believed that sidebone seldom caused lameness. Show me (continued the speaker) a case of uncomplicated sidebone and let me see the horse that is lame. I have seen thousands of horses said to be lame from sidebone but I never yet saw the horse lame from so-called sidebone in which there was not a complication. You will find that where there is permanent sidebone there is also disease of the small bone. Then with regard to firing sandcrack, if you refer to the report of the remarks I made, you will find that I simply said that the sandcrack might be fired parallel to the crack or across the crack—it is a matter of small moment which. I adhere to that statement. It is a matter of no importance whether you fire sandcrack across or parallel to it, so long as you remove the bearing of the hoof from the shoe beneath. Now we come to the statement that firing is not a counter irritant. When I alluded to the remarks of Mr. Hunting—who is not here this evening—I did not pretend to supply a theory for the action of the actual cautery. I simply adverted to the careless way or careless tone assumed by Mr. Hunting with regard to the action of the actual cautery. I said I was surprised that Mr. Hunting was not better acquainted with the therapeutics of counter-irritation, but I never meant to imply or convey that firing acts in the same way as a blister to the chest or to the loins. That was not my meaning. As a matter of fact I do not believe that the firing iron or a blister applied to the skin affects deep-seated tissues at all. I do not think there is any change at all produced deeper than possibly half-an-inch from the seat of the firing. If you refer to the latest edition of Finlay Dun's *Veterinary Medicine* you will find recorded five experiments performed by Professor McCall in 1891 to illustrate his contention in regard to the operation of blisters. In none of these cases to which blistering or firing was applied was the slightest change in the subcutaneous tissue observable by the naked eye. I am sorry to say that I am not able to supply any theory as to the action of the firing iron. Nor is this to be wondered at considering the number of lights that have shone and gradually disappear without furnishing any information on the subject. But I do think that, while one may not be able to supply a possible explanation of the action of the firing iron, one cannot shut one's eyes to the fact that it is a form of treatment which is attended with very great benefit to our patients, and when anyone says he believes that in many cases the same good result will accrue from prolonged rest, I say that I do not believe anything of the kind. If you have a horse with a severe sprain of the flexor tendons you may rest him until he dies and you will never improve his condition. But if you put the same horse under the operation of the firing iron and give him the ordinary treatment you will find that you will benefit that horse, and though you may not succeed in benefitting him permanently you will benefit him to the extent that he will be able to do light work. Now with regard to chloroform; at the risk of perpetuating the damage to the humane individuals in the profession and those outside the profession, I object to chloroforming horses before I fire them. I do so for the reason that chloroform has only a temporary action, and that the chief suffering follows the application of the firing iron. I do so for another reason, and I shall maintain the position I hope as long as I live; I shall not allow myself to be dictated to by any outside body as to how I shall conduct my profession. (Hear, hear.) That is my standing in connection with chloroform. Allow me to employ chloroform if I choose, but do not let the Anti-Vivisection Society tell me when I am to do it. (Hear, hear.) Then as to pain under the operation of the firing iron, I maintain that a horse can be fired without a twitch, without a blind, without a foot being raised, and if that is a painful operation then there is none in our profession which is less painful. I say I cannot do it in every case but I will undertake to fire a horse without a twitch, without a blind, or without any restraint, and that is by gradually firing. It takes a longer time to do it but it can be done. I don't say it can be done in every case but in many cases a horse can be effectually fired by taking time, and going over the lines again and again. You will thus be able to fire a horse without causing the horse very much disturbance. (Applause.)

Professor PRITCHARD, in reply, said: Mr. President and gentlemen, I may remind you that in the opening remarks I made with reference to this subject, I brought under your notice several theories that had been advanced by the lights of the profession years ago, and I endeavoured to lay down what I considered was the action of the firing iron. That I thoroughly failed in conveying my views in the matter I have not the slightest possible doubt, because nearly every speaker who has said anything about this aspect of the subject has declared that I advanced nothing in the shape of a theory. I have really not read the report since it appeared in *The Veterinary Record* as to what I said on this point, but I do know this, and shall be able to recall it to the minds of you: I said that one theory was that the application of the firing iron acted as a permanent bandage, another theory was that it acted only as a temporary bandage, and a third theory was that it acted as a counter-irritant. And I went on to say that in my opinion if there was

any bandage at all as the result of firing, I held that it was only a temporary bandage. I regarded it as producing an amount of deep-seated inflammatory action that no other application to the skin could possibly have. I recollect, too, that I qualified my statement directly afterwards by saying that perhaps the introduction of seton would have the same effect but that was not applied to the outside of the skin but passed beneath it. Beyond that I do not pretend to go. I do not believe that there is any particular charm or magic in the action of the firing iron. I repeat what I said at our last meeting: That it produces an amount of deep-seated inflammatory action that no other outward application to the skin seems to be able to bring about. Take an instance. I do not think that many of us would hesitate to fire a horse in his hocks if we found him to be suffering from articular spavin. Why do we fire him? Blister him if you like, but unless you fire him or introduce setons under the skin and set up a deep inflammatory action, you will not bring about the effect desired. You will not cure that horse of his lameness unless you bring about an anchylosed condition of the bone affected by that particular disease. And firing will do that. You may not thus succeed in every case—perhaps not in the majority of cases—but firing is one of the best methods of producing the condition I have mentioned,—indeed, with the exception of setons I know of no other method. In reply to this one of the speakers asked "How is the deep-seated inflammatory action going to work in the case of thoroughpin?" Well, I believe in firing for thoroughpin, and I assert now, as I did before, that there are numbers of cases of thoroughpin where ordinary blistering will absolutely have the effect of increasing the size of the thoroughpin, whereas the firing iron will get rid of it. I believe in that case such an amount of inflammatory action is set up in the internal membrane of the sac as to rob it of vitality, destroy its capability and by destroying some deposit already thrown out, it becomes absorbed and the enlargement disappears. That is a theory only, and I advance it for you to take it for what it is worth. If, however, that theory be correct, or has even the semblance of correctness, then we can understand why by setting up a deep-seated inflammation the firing iron succeeds when the ordinary counter irritant—in blistering—will not. I do not care to make any remarks as to what Mr. Hunting said about pesting, and that if animals suffering from splint, spavin or anything else, were not fired and had rest enough the probability is they would get well without being fired at all. I feel that in this Mr. Hunting was merely joking, and that if a horse were brought to him for treatment he would hardly give this advice. I am certain that there are plenty of cases of splint, spavin, ringbone, sprained tendons—all the maladies connected with a horse's lameness—which would not have got well at all without treatment; and scores of cases in which recovery has been hastened by treatment; and the saving of time is an important factor in this matter because we must remember that people do not, as a rule, merely keep horses to look at. If we only accelerate recovery by our treatment I think we are certainly justified in subjecting our patients to a certain amount of pain, and in making practical use of the knowledge we possess.

I think Professor Penberthy said that he did not believe there was any deposition beneath the skin as a consequence of firing, I have examined a great many fired legs and I never came across one—particularly if so-called deep firing had been carried out—where the subcutaneous tissue was not in a more dense condition than under an ordinary piece of skin which had not been fired, and I am at a loss to understand how this greater density could be unless some deposition had occurred.

I think Professor Penberthy was one of those who committed himself to the statement that sidebone seldom produced lameness and my friend here to-night (Prof. Macqueen) has given us a repetition of his opinion, but I cannot help being struck at the rather Gladstonian manner—if I may use that phrase—in which he tried to back out that statement. To-night he says "not complicated with anything else." I would put to him this question: does the complication that he finds appear simultaneously with the sidebone, before the sidebone, or is it a result of the presence of the sidebone? Because if sidebone *per se* is not the producer of the mischief, then all our notions of firing horses with sidebone are wrong. My experience has been—and I think it is the experience of most veterinary surgeons—that if you find a horse with sidebone with a good strong hoof, high heels, and a foot rather inclined to be narrow—by which I do not mean contracted heels—the probability is that he will go on through life and do work without showing any lameness. Take a horse with flat feet—flat soles, and low heels, and with sidebone; then you will find in nine cases out of ten that the animal will become lame; and if subsequently the animal grows to be ten or twelve years old and you find your complications, I think I am quite justified in saying that those complications are rather the result of the presence of sidebone than that they precede it or appear simultaneously with it.

There are many other points brought into this discussion as to which, to be candid, I do not think I have been convinced that I am wrong. I said it was ridiculous to be guided by the colour of the line as to the depth of the firing. I have fired some hundreds of horses, and I have never been able to come to any other conclusion that the colour of the line does not depend upon the depth burnt but upon the heat of the iron used. If the iron be absolutely of white heat, you will not get that brown colour which has been mentioned, however deep you may go, while on the other hand, if you have an iron almost too cold to use, then you will get a brown colour almost as soon as you have made a mark. I cannot come to any other conclusion with regard to this matter.

Nor can I alter my opinion as to what I said about the thermo-cautery. I think it is a beautiful instrument, and I shall never think of using any other so long as I have a thermo-cautery that will work. It will fire as deeply as you want to go—quite as deeply as an ordinary iron.

Perhaps I should have said a little more about the preparation of horses for the operation of firing. I should never think, myself, of firing a horse without first preparing it. I should say there is no necessity to prepare a cross-bred horse, a cart horse properly fed upon sufficient corn for the work it has to perform, as a hunter or racehorse just out of training should be prepared. I do not go any further than that. I should be sorry to have to fire the hocks or forelegs of a thoroughbred horse for sprained tendon without first submitting him to an amount of preparation. It is possible—if not probable, that 75 per cent. of such horses would not come to any grief, but if in the case of only one animal out of a hundred, an animal worth two or three hundred guineas, perhaps there were great pieces of skin sloughing out, it would be a very awkward thing indeed for the practitioner. It would be nothing out of your pocket to keep him ten days longer than you would otherwise do, in order to prepare him for the operation. If you prepare him, as I think you should do, you would get rid of any possible mischief following firing. With regard to tying horses up almost the same remarks apply. There are plenty of horses you might fire and turn out directly afterwards and they would not touch their legs. On the other hand there are plenty of horses that you might tie up four or five days which would interfere with their

legs and bring about a blemish that might be avoided. Cradles, I know, are useful in some instances, but in other cases you might as well put the cradle on a stall post as on a horse's neck.

With respect to so-called "sprained tendon," I believe that in the great majority of so-called cases of "sprained tendon" there is nothing more involved than the synovial membrane in connection with the tendon, and there deep-seated inflammation comes in again. I have examined microscopically a number of so-called "sprained tendons" and I got the late Mr. Coghill to make sections, and we have been unable to find anything else than this membrane affected, and we never failed to find that the deposition has been round the tendon and has involved to a considerable extent, if not entirely, the membrane connected with the tendon. I believe that in bringing about the recovery of an animal, when that animal has to win a race, it is due to our having obliterated almost entirely the synovial membrane. There deep-seated inflammation comes in again as the result of firing where blistering is no good.

I was very much interested in the remarks which Col. Duck made about needle firing, and I had some conversation with him on this subject before he addressed the meeting. I should like to see the operation. I can readily understand that needle firing may be of much advantage and produced beneficial effects that no other kind of operation would.

With respect to the use of anæsthetics, I may say that I am not a great advocate for the employment of chloroform in the case of a horse, however well that anæsthetic may be administered. I have seen over and over again horses ill for twenty four and even forty-eight hours consequent upon the amount of chloroform it was necessary to get into the circulation in order to produce the condition required. In many cases, too, more time is needed in the administration than is requisite to perform the operation itself. Often the horses fight against the taking of chloroform, and it produces an amount of inconvenience to the animal that is, I think, absolutely cruel. There is not much humanity, in my opinion, in administering chloroform to horses for a minor operation like firing. I only know of a few instances in which I should have recourse to chloroform whether for firing or anything else.

I do not know whether I have thought of everything which calls for a reply from me. I hope I have replied to most of the arguments advanced; and, as I said at the conclusion of my remarks in bringing this subject before you, I was much obliged for the patient hearing you accorded me, so now I thank you for the way in which you have listened to my reply, and for the manner in which you have taken up the discussion and combatted the arguments I advanced where you saw occasion to differ from the views I expressed. (Applause).

Mr. F. W. Wragg:—I move a cordial vote of thanks to Professor Pritchard for the able address he has been kind enough to give us. It has produced a very good discussion, which must be very gratifying to you, Mr. President, as I am sure it has been to all the members.

Mr. Caton:—I beg to second the motion.

The motion having been adopted unanimously,

Professor Pritchard said:—I am very much obliged to you for the manner in which you have received my effort to entertain you, and for the way in which you have discussed the subject. I assure you it is only for want of time that I do not more frequently introduce subjects for the consideration of the Fellows of this Society. It is always a pleasure for me to do so.

Mr. Rowe, in moving a vote of thanks to Mr. Edgar and Mr. Garry for the interesting pathological specimens they had submitted to the meeting, said that such specimens were always welcome, and had frequently furnished matter for useful discussion.

Professor Pritchard, in seconding the motion, said that the production of such specimens often gave rise to an amount of thought and discussion which enabled members to carry away with them useful information that they might not, perhaps, otherwise obtain.

The motion was passed *nem con* and acknowledged by Mr. Edgar.

In deference to the expressed wish of the meeting, and having regard to the hour reached, Mr. A. L. Butters deferred the reading of his paper on the "Intestinal Calculi of the Horse" until the next meeting of the Society, promising meanwhile if possible to revise his paper for printing so that a copy of it might be in the hands of members, by the February assembly.

Thanks to the chairman concluded the proceedings.

THE BLAKE FUND.

The following is the list of subscriptions to this fund received to date:—

	£	s.	d.		£	s.	d.
Thos. Greaves,	5	0	0	W. Shipley, Senr.,	1	1	0
R. C. Trigger,	2	2	0	W. Ridgman,	0	10	6
J. F. Jarvis,	1	1	0	J. J. Burchnall,	0	10	6
W. J. Mulvey,	1	1	0	E. H. Leach,	1	1	0
J. W. Edwards,	1	1	0	Capt. Russell,	0	10	6
F. G. Samson,	1	1	0	E. Beddard,	0	10	6
T. and A. Dollar,	2	2	0	Alfred Over,	0	10	6
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T. G. Chesterman,	2	2	0				

Subscriptions will be received by J. B. Martin, Rochester, *Treasurer*.

EXTRACTS AND NOTES.

THE DETERMINING CAUSE OF SEX.

By Andrew Wilson, F. R. S. Edin. F.L.S.

Some two years ago I placed on record in the pages of *The Lancet* a provisional theory of sex determination. Briefly stated, that theory maintained that the causation of sex was primarily a matter of nutrition affecting the ovum at the time of fertilisation. I held then (and hold still) that the ovum which is fertilised pre-menstrually, being a stronger and more vital one, tends towards the male side; and that the ovum which is fertilised post-menstrually, having lost much of its vitality, gets a bias towards the female side. This theory is consistent with the fact that while in lower vertebrates, and invertebrates as well, the female is as a rule the stronger, in mammalia the male is the larger. Therefore it needs a more vigorous ovum in the quadruped to develop into a male than is required for a female conception. The publication of my views in *The Lancet* was followed by an interesting discussion to which I need not refer here save to remark that when charged with neglecting the *rôle* of the spermatozoon in fertilisation and sex-production I remarked that my theory simply dealt with results. My critics, equally with myself, are largely ignorant of the exact part played by the male element in impregnation. We know it is as necessary (in mammals at least) as the ovum. What I maintain is that, given fertilisation, it is a question of vitality and nutrition on the part of the ovum which decides the sex of the resulting embryo. Each sex is evolved out of and from a common type. The embryo pursues for a time a straight path, then deviates to the male or female side. The impetus to this deviation, on my view of things, is given at the commencement of its existence as a fertillsed ovum.

The longer fertilisation is delayed after its extrusion from the ovary the greater likelihood is there of the ovum developing into a female embryo, and *vice versâ*. Hermaphroditic products can be explained on this theory by fertilisation taking place at the mean between the pre- and post-menstrual period; the ovum remains *in equilibrio*, as it were, and tends to develop the common or double type of organism.

I appealed in my former paper for clinical proofs of my theory. To this appeal one member of the profession has generously responded—Dr. J. Kerr, of Crawshawbooth, near Manchester. Before glancing at Dr. Kerr's memoranda I may be permitted to quote from *The New York Medical Record* three passages of interest in connexion with my theory, a statement of which, I presume, must have been published is the pages of that journal. In its issue for April 15th, 1893, I find the following:—"Determination of the sex, by George Abbott, M.D., Hamburg, N.Y.—In *The Medical Record* of Feb. 18th, on p. 213, is a statement relative to procreation of sex, which is in such accord with my own observations thai 1 am constrained to give a couple of confirmatory instances. Over thirty years ago I delivered a young woman of a daughter, who had been married just nine months and a few days. Her mother said that at the time of the wedding her daughter had but just recovered from her menstrual period. A year or so after this my wife assisted in dressing a lady for a marriage who had but just recovered from her monthly periods. In nine months thereafter this lady gave birth to a daughter. In my forty years' practice I have met several instances which, though perhaps not so clearly distinct as those given, still seemed to point so directly to the idea that a conception occuring just previous to the menstrual period would result in a son, and if just after, a daughter, that I have for many years made my prognosis of the sex of the forthcoming child upon the relation that the hour of conception bore to the normal period, with almost unerring certainty when we could depend upon the facts."

Again, in *The New York Medical Record* for Aug. 12th, 1893, a note is thus given:—"The Determination of Sex.—Dr. A. C. Carney of Dayton, O., sends the following as a contribution to the discussion upon the causes which may determine the sex of the child: 'On March 1st, 1892, in an examination of a young woman, I learned that her menstrual flow had just ceased. The following day she was married, and on Dec. 4th, 1892, she was delivered of a female child.'"

Turning now to Dr. Kerr's memoranda I find that his notes give us the following particulars, (18 cases are given in accordance with the theory.)

I make no comment on these cases. Some of them may not be beyond criticism; others, and I think the bulk, seem to prove the accuracy of my theory. To Dr. Kerr I owe a large meed of gratitude for his untiring energy in tracing out the history of the cases recorded. I commend his example to other practitioners interested in solving a question not without obvious social importance. What the cases establish is at least a very fair presumption, to put it mildly, that pre-menstrual impregnation will produce a male birth, and *vice versâ*. We have reached that stage in the investigation when, it seems to me, clinical observation alone must be depended upon for the rejection or overthrow of the views I have promulgated.—*The Lancet*.

To the Editors of THE LANCET.

SIRS,—This subject, again opened up by Mr. Andrew Wilson in your issue of Dec. 30th, 1893, is one of the greatest interest and importance; and while his facts may be accepted, his theory, built upon them, requires careful investigation and discussion. I think there is no doubt now as to the general acceptance of the truth of the facts as laid down by Mr. Wilson, corroborated as they are by the strong array of cases that he has adduced. Similar results are seen to follow in the lower animals (mammalia), as dogs, cattle &c., where it is found that if impregnation takes place immediately after the cessation of the "heat" (which corresponds to the human menstruation) the resulting offspring are more likely to be females than if the impregnation is delayed for some days. The interval of menstruation being shorter in the human mammal than in many of the others may stand in relation to a more rapid maturation of the ovum and, therefore, to a shorter time wherein the proces that leads to a determination of sex is carried out. And now as to Mr. Wilson's theory. Unfortunately we have to construct a theory partly on supposition, for one of the chief factors is missing—*i.e.*, we do not know the time of the extrusion of the ovum from the ovary (ovulation) in relation to menstruation. I must here quote a few sentences from Mr. Wilson's paper for the sake of reference. "I hold still that the ovum which is fertilised pre-menstrually, being a stronger and more vital one, tends towards the male side, and that the ovum which is fertilised post-menstrually, *having lost much of its vitality* (the italics are mine) gets a bias towards the female side. Therefore, it needs a more vigorous ovum in the quadruped (? mammal) to develop into a male than is required for a female conception. What I maintain is that, given fertilisation, it is a question of *vitality* and *nutrition* on the part of the ovum which decides the sex of the resulting embryo. . . . . The embryo pursues for a time a straight path, then deviates to to male or female side." What determines its deviation? Which is the straighter path? I do not agree with Mr. Wilson that "the impetus to this deviation is given at the commencement of its existence as a fertilized ovum": it is further back. "The longer fertilisation is delayed after its extrusion from the ovary the greater likelihood is there of the ovum de eloping into a female embryo, and *vice versâ*." It is this theory, built upon the devitalisation of the ovum through menstruation, that I wish to combat.

Premising that Mr. Wilson's facts are true, which have been corroborated by other observers, that conception following very soon after menstruation results in a female embryo, and premising that the ovum comes fresh from the ovary soon after the cessation of the period, its then condition is that of early development—*i.e.*, of quasi-immature growth—and if then fertilised it produces a female embryo, which, for want of a better expression, is of a lower type of developement; but after a time it attains a more mature stage, when its fertilisation results in the evolution of the higher type—*i.e.*, the male. Following the same line of reasoning, how is it we so often see that girls are more impressed with the father's features and characteristics, and the boys with those of the mother? Is it not that the dominant energy of the father impresses the immature ovum and outweighs it, so to speak, in the balance of power, but in the case of the male embryo the result is obtained by the same paternal energy working on an ovum of a higher evolution—an ovum that has had more time of intra-maternal growth, and so bears a greater proportion of maternal characteristics? I take it, therefore, it is not that menstruation weakens an ovum originally strong, and so "having lost much of its vitality," but that towards the end of the inter-menstrual period the ovum has gained in vitality, or rather has by evolution attained a more mature or higher grade. Before, however, we can formulate a theory that will carry conviction we must increase our knowledge as to the actual time in the menstrual cycle when ovulation takes place.

I am, Sirs, yours faithfully,

Harley St., Jan. 2nd, 1894. HEYWOOD SMITH.

NATURAL AND ACQUIRED IMMUNITY FROM DISEASE.

Behring has a paper of extraordinary interest in the *Deutche Medicinische Wochenschrift*, No. 48, on the Present Position of the Blood-serum Treatment. The discovery of specific poisons of bacterial origin has led to a search for specific remedies. The specific poison has been shown to exist by experiments relating to (*inter alia*) tetanus, diphtheria, glanders and cholera. Formerly the object of treatment was to kill the parasite; we now use the parasiticide remedies for preventing the multiplication of micro-organisms in excreta, clothes, or dwellings, but we do not yet know how to use them with any effect upon the living organisms. The micro-organisms of disease are harmless in the system if the system be protected. Thus the convalescent from diphtheria have living and virulent diphtheritic bacilli in their mouths, often for weeks, but are unaffected by them. Persons, again, who have had or have been exposed to cholera may pass cholera bacilli in a state of activity and virulence by the bowel, and yet to all appearance be quite well. Such people are, of course, a source of danger to others. There is also a natural insusceptibility. White mice, we know, are not affected by diphtheria, nor do fowls contract tetanus. This natural immunity cannot be communicated by transfusion. There is, again, an acquired immunity, of which the effects of vaccination afford a familiar example; and possibly we may include here the immunity which some individuals eventually reach against alcohol, tobacco, and morphine. Such acquired immunity may, according to Behring, develop quickly or slowly. Immunity which is acquired quickly is connected with an alteration of the blood. Under the influence of systematic and gradually increasing doses of the tetanus poison the fluid constituents of the blood (serum) acquire the property of making the poison harmless; and if this antitoxic serum is injected into another animal, the latter also becomes for a time immune. Tetanus poison has three different effects on a susceptible individual: (1) it causes tetanus to a greater or less degree, with (2) development of antitoxine in the blood, and (3) a diminished susceptibility of the living tissues towards the poison. In animals treated with tetanus poison the first result is the appearance of antitoxine in the blood. As the treatment is continued each increased dose of poison causes a further reaction, and each reaction up to a certain point is followed by an increase in the amount of antitoxine. The animal has now acquired more or less complete immunity, and its blood contains antitoxine; but there comes a times when, in consequence of the impossibility of administering sufficienty virulent cultures either in quality or quantity, no further reaction can be obtained. No more antitoxine being now produced, that already developed gradually disappears from the blood, and the serum, if now transfused into another animal, no longer causes immunity. But the immunity of the original subject of experiment abides and increases. It is clear that in this stage the antitoxic quality of the blood (which has disappeared) cannot explain the continued immunity. Behring considers that this condition exhibits the formerly susceptible living tissues as insusceptible, and holds that this acquired immunity is comparable to natural immunity, and of the same nature. The immunity resulting from immediate assimilation of antitoxine he describes as "direct," while that following repeated reactions to doses of poison he calls "indirect." Animals that have been made directly immune by the injection of antitoxic serum as soon as the antitoxine is excreted are as susceptible as ever, and hence such an immunity connot be transmitted by the semen, for instance. It is transitory; but the immunity of the living tissues is, if natural, permanent. The question—which Behring considers that time will prove—is whether the acquired immunity of living tissues is hereditary and permanent.—*The Lancet.*

TRESPASS BY A PONY.

At the Chester County Court, on Thursday, His Honour Judge Sir Horatio Lloyd gave judgment in the action of Roscoe v. Boden, heard at the last court. His Honour said this was an unfortunate bit of litigation, because he was afraid a rather expensive result would follow from what was not in the outset a serious matter. The action was brought by Richard Roscoe, farmer, Saighton, against Walter M. Boden, architect, Chester, for £40 damages, made up as follows:—Damage done to plaintiff's grass by defendant's pony trespassing and galloping over the same, 1s.; damage to plaintiff's filly by defendant's pony while damage feasant, £25; veterinary expenses £3 3s.; keep of defendant's pony from 26th August to 6th November at 2s. a day, £8; and keep of pony down to 14th December, the day of the hearing of the action, £3 16s. Plaintiff and defendant were adjoining occupiers of land, and their property was divided by a pit and fence, which Mr. Boden was liable to maintain. The condition of the fence was not very material, because, according to ordinary law, Mr. Boden was bound to keep his pony at home, no matter what the inducements might have been for its straying. (Laughter.) It was admitted that the pony did trespass on to Mr. Roscoe's land, and get among his horses, and it certainly did injury to one of them by kicking it. That was quite clear. Mr. Roscoe's man impounded the pony in the act, and he had a perfect right to do so. In the evening when Mr. Boden returned home, he sent his man for the animal, but Roscoe refused to give it up, and made a demand for £5. The unfortunate part of the story was that although this happened so far back as the 25th August, the pony remained in the possession of Roscoe, owing, he was afraid, to a little bit of temper on both sides, until the case was heard on the 14th December. The question now was: who was responsible for all this? The action was brought for two distinctly different matters—one for the damage done to the pony, and the other for its keep. There was force in the objection made by Mr. J. P. Cartwright, the solicitor for the defendant, that those two causes could not, under the circumstances, be combined. The conclusion his Honour had come to was that plaintiff was entitled to recover so far as the injury to his own horse was concerned, but that he must resort to the pony and sell it for what might be due to him for the keep. The claim, therefore, for keep would be struck out, and the next question was what was the condition of plaintiff's horse prior to the kick. On this there was a conflict of evidence. Plaintiff and his witnesses said it was in good condition and had no defect of any consequence on the 25th August before

Mr. Boden's pony kicked it. It was then worth £35, but now was not worth £5. On the other hand, Mr. Boden said the horse was "the greatest screw in the country." (Laughter.) That might be a little exaggerated, but he could understand what Mr. Boden intended to convey. Reviewing the evidence of the veterinary surgeons on either side—Mr. Edwards for plaintiff, and Mr. Storrar for defendant—his Honour said he was inclined to believe that the horse was not a perfect animal at the time it was kicked. Mr. Storrar said the animal, if all right, might be worth £35; but a bad bog spavin, from which it was suffering, made it unmarketable. Still, he estimated it would be worth £10 or £15 to its owner for work on the farm, while plaintiff admitted that at the present time it would fetch £5. Looking at all the evidence, his Honour assesses the loss to the plaintiff at £10. Adding to that veterinary charges, he gave judgment for the plaintiff on the claim for £13 3s. There was a counter-claim for £50 for loss sustained by Mr. Boden through being deprived of the services of his pony, but as the seizure was perfectly legal, and plaintiff had a perfect right to detain the animal, judgment would also be given for the plaintiff on the counter-claim.

Mr. Collingwood Hope, barrister (who appeared for the plaintiff) reminded his Honour of the arrangement come to at the last hearing, by which the pony was handed over to Mr. Boden. Plaintiff had no desire to sell the pony, and they had referred to his Honour as arbitrator the question of the cost of its keep during the time it was detained.

Mr. Cartwright said his client informed him the pony was now utterly useless, and was not worth anything like £15.

His Honour remarked that plaintiff claimed 14s. a week as a fair and proper charge for the pony's keep. Mr. Boden thought 4s. or 5s. a week was sufficient, because as the pony was not working, it was only necessary to just keep it alive, and he (his Honour) had no doubt it would soon recover its proper condition. He thought under the circumstances that 7s. a week would be a fair figure at which to assess the pony's keep, making altogether £5 18s. Costs must follow the judgment.

Mr. Hope applied for the cost of the surveyor's plan, and his Honour allowed a guinea.

We understand the judgment will be appealed against. —*Cheshire Observer.*

M.R.C.V.S. affected with Anthrax.

Our readers will regret to hear that Mr. H. Redford, V.S., is suffering from a very serious malady. I apears that on the 28th ult. he had to visit Chilton Candover, where there was a cow belonging to Mr. George Chivers, gardener at the Rectory, which had suddenly died. He made a post-mortem examination of the animal, but he did not use indiarubber gloves for the operation, as was his wont, as he was unaware that he would have to undertake it when he left home. He brought the spleen away with him, and forwarded it to the Royal Veterinary College, and the disease was afterwards pronounced to have been anthrax. Mr. H. Redford continued in his usual health until Wednesday morning last, when he complained that his arm was painful, and in the evening, as it got worse, he, acting under the advice of two medical gentlemen, who thinking that Mr. Redford might have had a scratch on his arm at the time he made the post-mortem examination of the cow on the 28th, and that *bacillus anthracis* had thereby got into his system, they recommended that on the following morning he should proceed to London to consult a specialist, Dr. Watson Cheyne. This he accordingly did, with the result that the fears were unfortunately realised, and at two o'clock on Thursday the pustule in his elbow was successfully removed and the flesh around it was also cut away. Mr. Redford, who bore the operation well, was ordered to keep to his bed for a few days. We are glad to hear that at noon yesterday the doctor reported that there was a decided improvement in Mr. Redford's condition, and that the outlook was favourable. A telegram received later in the day said the improvement was maintained. We are sure that his many friends wish him a speedy recovery, and feel the greatest sympathy with him and his family in their anxiety.—*Hampshire Chronicle.*

THE JOSEPH GAMGEE TESTIMONIAL.

The following contributions to this Fund have been received up to the 16th inst.

	£	s.	d.		£	s.	d.
Prof. Brown, C.B.	1	1	0	Mr. B. Kettle	1	0	0
Mr. W. Bower	2	2	0	Major Kettle	1	1	0
A. C. Cope	1	1	0	Mr. H. Kidd	0	10	6
W. Duguid	1	1	0	W. E. Litt	3	3	0
H. Ferguson	1	1	0	D. Macgregor	1	1	0
J. Freeman	1	1	0	J. McKenny	1	1	0
T. W. Gowing	0	10	6	E. Nuttall	0	10	6
T. Greaves	1	1	0	J. Panton	1	1	0
J. Hammond	1	1	0	S. J. Rayment	0	10	0
M. Hedley	1	1	0	C. Stephenson	1	1	0
J. Hoole	2	0	0	J. B. Taylor	1	1	0
C. Hunting	5	0	0	H. Thompson	1	1	0
W. Hunting	1	1	0	J. H. Welsby	1	1	0
F. R. Ingersoll	1	1	0	W. Woods	1	1	0

WILLIAM DUGUID, *Hon. Treas.*

Illicit Feeding and Drugging.

A case of considerable importance to all connected with horses was held at the Gainsborough Police Court last week. A young farm servant was charged with stealing three stones of barley-meal from his master to give to horses, and also with administering blue copperas to two of the four horses in his charge. It was stated that the copperas was an extremely dangerous drug to administer, and that it was not customary to give the horses barley-meal in winter. Defendant said he gave the horses copperas because they could not eat well. As his employer stated that he did not wish to press the charge unduly, but had brought the case forward in the interest of farmers generally, denfendant was ordered to pay 24s.

Outbreak of Glanders in Hunslet.

At a meeting of the Leeds Corporation Sub-Markets (Cattle Diseases) Committee it was reported that glanders had broken out in a stable at Hunslet, and that two horses had been attacked. The committee ordered that the horses should be destroyed, and agreed to allow the owner the customary compensation.

British Patients for M. Pasteur.

Recently five persons—one a servant girl aged 20, and four boys aged about 8—were bitten by a St. Bernard dog in Wavertree village, Liverpool. The dog belonged to a gentleman in Victoria Park. The cases have been under the care of Dr. Wearing. The dog was destroyed, and, after examination by Dr. Barron, of Rodney Street, was pronounced to have been suffering from rabies. One of the boys, the son of a gentleman in Victoria Park, was sent to Paris on Saturday, January 6th, to undergo treatment at the hands of M. Pasteur. The rest followed, a fund having been rapidly formed for their maintenance and treatment whilst there.—A special

meeting of the magistrates has been held at Prescot, and the muzzling order for dogs will come in force again in the West Derby district.—Owing to two deaths having taken place at Renfrew from the bites of the mad dog in September last, the three men who were bitten by the dog have been sent to Paris to M. Pasteur's Institute. Two of them were bitten on the face—a policeman and a workman.

Cattle-maiming in Perthshire.

Before Sheriff Grahame, at Perth yesterday, Patrick Coyle, a labourer, aged 19, from Perth Prison, was charged, under the 31st section of the Criminal Law Procedure (Scotland) Act with theft. The indictment showed that in the month of December, Coyle entered seven stables and byres in Perthshire, and stole quantities of hair. Mr. L. Grant, on behalf of Coyle, tendered a plea of guilty. Mr. Melville Jameson, procurator-fiscal, stated that prisoner secured the hair by cutting it off horses' and cows' tails. There were about 28 cows and nearly the same number of horses treated in that manner. It was a very serious case. The Sheriff said there must have been a good deal of planning before the thefts had been committed. The sentence would be one of sixty days' imprisonment.

CORRESPONDENCE

MR. ROGERS AND THE FARRIERS' COMPANY.

SIR,

I thought it possible that Mr. Baxter might have considered it worth while to give an explanation of his letter to Mr. Dollar, published in your issue of Jan. 6th. In previously writing of matters connected with the Farriers' Scheme I have avoided entering upon my personal complaints against the executive, but the incorrect letter of the secretary renders it necessary that I should give an outline of the methods adopted towards one who dared to criticise the working of the Scheme.

After the examinations had begun, I received (addressed to my forge) a prospectus with a form of entry for examination for master farriers. I was anxious to find out the nature of their test of craftsmanship because I employed farriers, and was prepared to welcome registration as a guarantee of efficiency, if I found the examination a proper one. I forwarded an entrance fee of ten shillings with the filled-in form, received a receipt and a request to present myself on the evening of June 24th, 1892. The examination was a *viva voce* affair and after replying to a few simple questions I was passed. On payment of one pound I was given an imposing certificate in which I was described as being *fully qualified to work as a Registered Shoeing-Smith.* I was so impressed with the short-comings of the so-called examination on which candidates were certified as efficient workman, that I addressed a letter to the Council of the R.C.V.S., describing the examination and asking the Council to use its endeavours to institute a genuine practical test. This letter, I am afraid, made me some enemies in my own profession and also on the Farriers' Committee, and further, probably caused me the annoyance which followed.

In April 1893, a circular was issued calling a meeting of Registered Shoeing-Smiths for the purpose of selecting tow Registered Shoeing-smiths to act on the Executive Committee. The notice ended by inviting every R.S.S. in London to attend. I applied to Mr. Baxter for a ticket which he refused me, and in his reply stated that his instructions were to invite only farriers and *not members of the veterinary profession*, the letter ended as follows: "the certificate you hold was sent you in ignorance, so far as I am concerned, that you were otherwise than a shoeing-smith."

The document was not sent me, but paid for and delivered at the time of examination. Mr. Baxter's letter in effect challenged my right to hold the certificate on the ground that I was a veterinary surgeon. I had previously received a communication offering the official list of R.S.S. for sale. On the direction, the letters M.R.C.V.S. were placed after my name, thus clearly showing that it was then known I was a member of the veterinary profession. I applied for a copy of the list, and sent the price named as being that to R.S.S. Mr. Baxter refused me the list on these terms, and up to the present the money has not been returned to me. I secured a copy through another source and found that *without giving me notice or warning of any kind my name had been omitted.* I protested against this omission considering it a gross insult because the only clause of the scheme dealing with the removal of a name, sets forth such a removal as a punishment for *misconduct affecting the integrity of the trade or injurious to the public.*

A peculiar quibble was next put forward that my name had not been removed from the Register (a manuscript document) but *only* from the official printed list. This list is one that might be compared to our own Register if the Farrier's Committee had any statutory powers.

Again a further shifting of ground took place, and in the letter quoted by Mr. Dollar the reason given for denying my title to the certificate was that I belonged to the veterinary profession, and therefore was not entitled to a certificate (obtained by examination). The letter ends as follows: "The certificate was issued under a misapprehension, I trust you will kindly return me the certificate when, I am authorised to return you the fees paid."

During the whole of the time the name of Mr. Farrow, jun., M.R.C.V.S., appeared on the official list.

It is not likely that after such treatment as I have detailed I should consider the matter settled to my satisfaction—quite the reverse. I was exceedingly surprised to read Mr. Baxter's letter to Mr. Dollar, and I challenge the writer to prove the statement he there makes. The committee may have repented at the eleventh hour, but I assert that at present I have not received a single line from it or by its authority stating that my name should be put upon the official list of R.S.S.—Yours truly,

H. J. ROGERS.

170 Brompton Road, S.W.

THE BLAKE FUND.

Please add to list of subscribers Mr. W. Hunting, £1 1s.

J. B. MARTIN, *Treas.*

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. W. T. Edwards, J. L. Hamilton, E. W. Hoare, F. Hobday, R. Over, W. Awde, H. G. Rogers, J. F. Simpson, "Who Struck Buckley" "Jrnl. Comp. Med. and Vety. Archives" (New York, Jan.) "Hampshire Chronicle." "Cheshire Observer."

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, S.W.